

POWERED BY **Dialog****MANUFACTURE OF SEMICONDUCTOR DEVICE****Publication Number:** 03-229425 (JP 3229425 A) , October 11, 1991**Inventors:**

- ISHIKAWA KATSUYA

Applicants

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Application Number: 02-025421 (JP 9025421) , February 05, 1990**International Class (IPC Edition 5):**

- H01L-021/331
- H01L-021/90
- H01L-029/44
- H01L-029/73

JAPIO Class:

- 42.2 (ELECTRONICS--- Solid State Components)

Abstract:

PURPOSE: To make a collector layer contact region unnecessary to enable making elements smaller as much by contact-forming a base layer and collector layer through one silicon hole.

CONSTITUTION: An oxide film 5 is used as a mask so that a silicon substrate 1 is etched almost to the bottom of the depth of a collector 4 by anisotropic dry etching. After an oxide film 7 is formed on the side wall of an obtained silicon hole, a nitride film 8 is deposited. Then, the nitride film 8 is left only on the side wall of the silicon hole. A polysilicon electrode 10 is formed inside the silicon hole and buried by the oxide film 11 for the purpose of conducting flattening. Then, the polysilicon electrode 10 of the silicon hole is removed to the vicinity of a collector region end. After that, the oxide film 13 is formed and subsequently the nitride film 8 and the oxide film 7 are removed and second polysilicon to be a base electrode 14 is formed by the use of LPCVD method. After that, the base electrode 14 is patterned by a resist mask 15 and one silicon hole has the contact of a base 3 and the collector 4 for common use.
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JAPIO

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Semiconductor unit prodn. - shared base of bipolar transistor and collector contact NoAbstract
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Patent Assignee: MATSUSHITA ELECTRONICS CORP

Patent Family

Patent Number	Kind	Date	Application Number	Kind	Date	Week	Type
JP 3229425	A	19911011	JP 9025421	A	19900205	199147	B

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